CHAPTER 31

SIDEWALKS, CURB AND GUTTER, MEDIANS, DRIVEWAYS AND ALLEYS

31.1 General

AASHTO's, A Policy on Geometric Design of Highways and Streets, as published by the American Association of State Highway and Transportation Officials, was used as a reference within this chapter.

All pedestrian facilities shall be designed in accordance with **ADA** regulations and the requirements of these Standards, whichever is safer for pedestrians and also, meet Traffic Safety Division requirements. This chapter sets forth the minimum criteria to be used in the design of all sidewalks, curb ramps, and other pedestrian and ADA facilities within the ROW, or other public easements.

31.2 Historical District Sidewalks, Curbs, Gutters, Crosswalks, Bicycle and Handicapped Ramps, Roadway Surfaces, Alleys and Other Special Districts

For the following Historic Districts, the standards should consist of cement sidewalks in Commercial Zones and Mixed Use Zones, brick sidewalks in Residential and Special Purpose Zones, stone curbs, Washington globe lights, and concrete handicapped ramps.

- Georgetown
- Logan Circle
- Strivers Section
- LeDroit Park
- Anacostia
- Capitol Hill
- Foggy Bottom
- Greater 14th Street
- Greater U Street
- Blagden Alley and Western Shaw
- Mount Vernon Square

The concrete for the handicapped ramps does not need to be tinted to match the brick.

For the alleys in the two blocks bounded by 9th, 10th, M, and O Streets (Blagden Alley & Naylor Court), and in Foggy Bottom, particular care should be given to preserving and/or replacing in-kind, the block and brick alley paving.

Ideally, all alleys in these districts that are brick or asphalt block should be repaired or replaced in-kind rather than paved over. Where blue stone curbing exists (typically in Georgetown and Capitol Hill), care should be given to preserving and reusing this where possible (Refer to the current **Downtown Streetscape Regulations** for construction in the Downtown District).

When the community requests modification to the standard design in the Historic Districts listed above, an approval from the SHPO must be requested.

31.2.1 New/Existing Sidewalks

The following standards shall be used during new construction or rehabilitation of components of the transportation infrastructure within the Historic District. Construction methods and materials shall be as per the current **District of Columbia, Department of Transportation Standard Specifications for Highways and Structures,** addenda and supplements thereto.

New sidewalks shall be:

- Concrete in commercial zoned areas and mixed use zoned areas. The concrete sidewalk shall be a minimum of 4 in. thick.
- Brick on concrete in residential and special purpose zoned districts, with a minimum concrete base of 4 inches.
- The pattern for new brick sidewalks shall be running bond.
- Where there are no sidewalks provided, new sidewalks must be provided at existing bus stops from the front and rear doors of the bus to the nearest crosswalk. The minimum sidewalk width is 6 ft. Handicap ramps must lead to the crosswalk and be installed on both sides of the street.

NOTE: See section on **Bus Stops** for further requirements.

Existing sidewalks shall be rehabilitated to retain the existing materials and pattern as described below:

- In residential and special purpose zoned districts, brick on concrete shall be replaced with brick on concrete.
- In residential and special purpose zoned districts, brick on sand shall be replaced with brick on concrete.
- Every effort will be made to reset existing bricks and to supplement existing brick from the Departments brick stockpile. In those cases where there is insufficient brick to rebuild the sidewalk with the original bricks, then the reusable bricks shall be used at the curb line, and the remainder of the sidewalk shall be built with matching new bricks.
- The brick pattern of the rehabilitated sidewalk shall match the predominant pattern prior to rehabilitation (See attachment for Brick Patterns).

- In all cases, the color of the brick used shall match as closely as possible to the color of existing bricks in the vicinity. The brick size shall also match the existing bricks in the vicinity.
- In commercial and mixed use zone districts, brick sidewalks shall be replaced with concrete sidewalks.
- In commercial and mixed use zone districts, concrete sidewalks shall be replaced with concrete sidewalks.

31.2.2 Curbs

- Newly constructed curbs shall be granite.
- Existing stone curbs, including blue stone curbs, shall be reset whenever possible. In those cases where the existing stone curbs cannot be reused or are insufficient in quantity, the existing bluestone shall be supplemented by bluestone from the Departments stockpile (See attachment). After utilizing all available bluestone, remaining curbs shall be new granite.
- The Department will salvage and store reusable bluestone curbs in order to create a stockpile usable in the future as replacement curbs in order to minimize the necessity of granite replacements.

31.2.3 Gutters

- All newly constructed and replaced gutters shall be brick.
- Existing concrete gutters may be repaired, but when conditions warrant replacement, it shall be in brick.

31.2.4 Crosswalks

Crosswalks at intersections shall be designed on a case-by-case basis, as directed by the Department. Brick patterns, 4 in. by 8 in., stamped or scored joints on concrete pavement, with 8 in. wide granite shorelines, may be considered when approved by the Department.

31.2.5 Bicycle/Wheelchair Ramps

New or rehabilitated wheelchair ramps in the Georgetown Historical District shall be constructed in brick with a pattern that can be distinguished, by touch and sight, from the abutting sidewalk (See attached Detail).

At the curb of the street handicap ramps cannot be installed in front of individual private or public buildings. Handicap ramps can be only installed in pairs of two, one on each side of the street and must be located within a stripped 15 ft. wide crosswalk, unless otherwise noted.

Design considerations for handicap ramps: Design storm drain systems to shed water away from the curb ramps.

Note: Bicycle ramps are different from handicap ramps, especially where bicycle trails cross the street the ramps need to be made the width of the trail.

31.2.6 Roadway Surfaces

- In those cases where an existing roadway is reconstructed, the new road surface will be in accordance with the pavement selection criteria of the **Pavement Design** chapter within this manual.
- In those cases where the existing roadway requires only surface restoration, the road will be milled and resurfaced in asphalt.
- Roadways that are constructed of materials other than asphalt or concrete shall be rebuilt using the existing paving material. The most common alternate paving material is cobblestone and asphalt block. If there is insufficient existing material available to rebuild the roadway, then every effort should be made to obtain additional paving material to match the existing.

31.2.7 Alleys

Historic alleys in the District of Columbia must be repaired and/or restored with special consideration. Alleys shall be restored with the same material, if possible, as originally constructed. Brick alleys shall be rebuilt in brick; cobblestone alleys shall be rebuilt in cobblestone. Concrete, asphalt and asphalt block alleys shall also be rebuilt in-kind.

If the historic alley was constructed with materials that are no longer in use today, the alley shall be reconstructed with materials that match as close as possible to the existing in color, texture and other characteristics. The DDOT Chief Engineer will make the final determination.

District regulations require that all alleys be lit to current lighting standards. If the alley is currently lit, the only work required will be the replacement of luminaries, lamps and photocells to DDOT standards. If the alley does not meet current standards, then a new lighting system must be designed to include manholes, conduits, wiring, poles luminaries, lamps and photocells. New poles will be placed on the property line between adjoining lots where possible.

When a contractor or utility company performs work in an ally deemed historic by the District of Columbia, the DDOT Chief Engineer must be notified. Where the work involves removing rare materials that may no

longer be obtained as replacement parts, the contractor or utility company may be required to carefully remove the entire special paving, perform the required work and repave the alley as directed to avoid unsightly patch work. An area will be designated to utilize material that matches the existing material in color, size and texture as closely as possible.

31.2.8 Other Special Districts

For the following Special Districts, the standards should consist of concrete sidewalks, stone curbs with brick gutter, Washington globe lights, and concrete handicapped ramps. The asphalt block paving on 22nd Street, at the base of the Spanish Steps, should be retained.

- Dupont Circle
- Sheridan-Kalorama
- Massachusetts Avenue
- Sixteenth Street, NW

For the following Special Districts, the standards should consist of concrete sidewalks, concrete or stone curbs and gutters, Washington globe lights, and concrete handicapped ramps.

- Mount Pleasant
- Cleveland Park
- Woodley Park
- Takoma Park

In Mount Pleasant, asphalt pavers in alleys should be retained, rather than replaced or paved over.

31.3 Bluestone Curbing

Bluestone curbing, regardless of location, shall be reset and reused wherever possible. If existing bluestone cannot be re-used, for sound engineering reasons, the stone shall be salvaged, and returned to the Department's Street Maintenance facility. In historic districts, bluestone that cannot be re-used shall be replaced with Granite.

NOTE: In all previously developed areas, sidewalks, curbs, and gutters will be constructed with “in kind” materials or aesthetically improved materials to meet community requirements. When there is evidence of bricks, granites or special materials of original construction, construct new sidewalks, curbs, and gutters with these special materials unless requested otherwise by the community.

31.4 Non-Historical Sidewalks, Alleys and Driveway Thickness

All sidewalks shall be a minimum of 4 in. thick concrete. Alleys and driveway entrances shall be 7 in. thick concrete.

31.4.1 Sidewalks

All sidewalks shall have a minimum width of 6 ft. when separated from the roadway by a buffer strip. The width of the buffer strip should be a minimum of 4 ft. preferably 6 ft. for tree space. All sidewalks for arterials shall have a minimum width of 8 ft. with a 6 ft. buffer. "Standards for sidewalk treatment in downtown areas shall meet the current requirements of the ***Downtown Streetscape Regulations.*** All downtown streets shall have a minimum sidewalk width of 16 ft. with 6 ft. buffer strip. Where no buffer strip is provided, the width of the sidewalk should be 16 ft., especially where there is no shoulder (aids in preventing truck overhangs or side view mirrors from hitting pedestrians). Where utility poles, sign supports, fire hydrants, tree boxes etc., are provided in the sidewalk, the minimum usable width of sidewalk shall be 3 ft. to allow for wheelchair passage. Where the adjacent roadway has a low level of service (D, E, or F), a wider sidewalk (8 ft.) should be considered.

Sidewalks should meet the minimum designated existing street right-of-way widths, as sometimes they vary from block to block. In some public space areas of the city there is no parking provided and the sidewalks exist from the curb of the street to the right-of-way line (property line).

If the DCRA should allow or require a builder to extend the building projection in to the public space right-of-way of a street, that issue must be addressed by Traffic Services Administration, Traffic Safety Division to insure that pedestrian safety as well as traffic safety is not compromised.

The maximum sidewalk cross slope is 2 percent. The maximum grade is 12:1 (8.3 percent). If the 12:1 grade is not feasible due to topography and other physical constraints, the least practical grade greater than 8.3 percent should be used.

31.4.2 Alleys

Alleys provide for accessibility and service to each individual land parcel. They are characterized by a narrow ROW and range in width from 16 ft. to 20 ft. Alleys may be designed to include parking as described in the **Parking** chapter within this manual.

Alleys should be aligned parallel to or concentric with the street property lines and should be situated in such a manner that both ends are connected either to streets or to other alleys. All alleys should have grades established to meet as closely as possible, the existing grades of the

abutting land parcels. The longitudinal grade should not be less than 0.35 percent.

Alley cross sections will be V-shaped with transverse slopes of 2.5 percent toward a center V gutter, which thereby directs runoff to a catch basin in the alley itself, or to the connecting street gutter system. The transverse slope or "dish" may be modified to meet existing features or conditions and to provide proper drainage. See DDOT's *Standard Drawings* for details.

31.4.2.1 Traffic Safety Divisions Requirements

- When entering and exiting any private and/or public space alley, all traffic must head-in and head-out from any city street. Vehicles are not allowed to back into any public alley from a city street.
- Sight-distance when exiting a private and/or public alley requires a minimum 15 ft. distance from the edge line of the alley on a 45-degree angle from the property line to the back edge line of the sidewalk. If no sidewalk exists then use the curb line of the street. Within this area, no over-height fencing and/or shrubbery over 4 ft. tall are allowed within this area.
- 10 ft. standard alley radii.
- No step-down curbs or ramps allowed at driveways, all alleys are flush with the grade of the sidewalk when crossing the sidewalk area.
- All parallel end-parking spaces on property adjacent and parallel to an alley right-of-way line must have a minimum 6 ft. clearance from the edge line of the alley.
- All spaces at 90-degree angle to an alley when heading into a parking space must have a 3 ft. clearance and when backing into a space must have a minimum 5 ft. clearance for the overhang (distance between rear wheels and rear end of vehicle).

31.4.3 Driveways

A driveway represents an access constructed within the public right-of-way that connects the public roadway with the adjacent property. Driveway terminals are, in effect, low volume intersections. The numbers of driveways and their location have a definite effect on highway capacity, primary on arterial highways.

Driveway entrances should be constructed perpendicular to the roadway and shall not cause the blocking of any sidewalk, border area, street, or roadway. Sight distance represents a significant design control for driveways and they should be located to provide the best visibility possible within the limitations of the property that each driveway serves

31.4.3.1 Traffic Safety Division Requirements

- All driveways must be flush with the grade of the sidewalk when crossing the entire sidewalk area;
- Residential driveways should have a minimum 12 ft. width within the public space area. Driveway entrances should be flared (Type D) or have a maximum radius of 6 ft.
- When installing circular driveways, the point of the 6 ft. radius of the circular driveway at the curb of the street shall be located a minimum of 8 ft. off of the interior property lines between two private properties within the public space right-of-way area and/or must meet the minimum requirements of 60 ft. to a street intersection as measured from the intersection of the curb lines extended.
- There are two types of circular driveways, one on a 60-degree angle and the other is a "U" shape on a 90-degree angle at the curb of the street. See drawing details for the layout of these driveways. When a circular driveway is located within the public space right-of-way of a street, parking is not permitted within any part of this area. If the driveway area is located within the limits of the private property, than parking is allowed.
- If the circular driveway is a combination of public space right-of-way and private property, it shall be designed so that no vehicle or any part of a vehicle projects over any private property limits into public space right-of-way of a street.
- One cannot use any circular driveway for stacking parked vehicles, as these driveways have a special use for allowing passengers closer access to an entrance of a building. They must have a clear drive width for entrance and exit area for the entire length of the driveway.
- All driveway radii must be located within the public space adjacent to the property applying for driveway and not within neighbor's public space;
- No step-down curbs or handicap ramps are allowed at driveways, all driveways are flush with the grade of the sidewalk, when crossing the sidewalk area;
- If any driveway is wider than 25 ft., then a 6 ft. wide pedestrian island must be provided between driveways. This pedestrian island must be paved as sidewalk and match existing sidewalk material. This pedestrian island has 3 ft. curb-radii at the curb line of the street. The pedestrian island continues within the public space from the back edge line of the sidewalk to the property line and this area can be landscaped, but no vehicles can cross this area.

- No driveway of any entrance or exit to an intersection shall be closer than 60 ft. to a street intersection as measured from the intersection of the curb lines extended. On the approach direction to an intersection the driveway edge line must be located a minimum of 60 ft. from the point of intersection of two streets.

(NOTE: existing condition is 40 ft. distance from the intersection. This is out-of-date and must be brought up-to-date to meet the traffic safety requirements for vehicles at an intersection, this is one of the causes of crashes occurring at an intersection or close to an intersection.) This should apply to all driveways and not only driveways listed in DCMR Title 11, Chapter 23.)

- When changing the existing original use of any property, the property owner must submit a design for new driveways for this property. All existing driveways must be restored with new curb and gutter, tree space and sidewalk
- When turning from an intersection into an alley or a driveway the vehicles must clear the entire crosswalk while waiting to make a turn into the driveway and/or alley. This is a required clearance safety zone, so that when motorist is waiting to make a turn into the driveway, their vehicle does not block any part of the crosswalk, as another vehicle behind this vehicle has enough room to pass this vehicle without having to back-up into the crosswalk area.
- Downtown Streetscape Area Driveways shall be constructed at a right angle (90 degrees) to the curb line of the street through the entire public space area to the property line; and shall have a 6 ft. radius at the curb of the street. A driveway must be located a minimum of 8 ft. from any interior property line.
- A driveway shall be a minimum of 12 ft. in width and a maximum width of 25 ft.
- All driveways shall not be less than 12 ft. in width for one-way traffic and 24 ft. for two-way traffic.
- There must be a minimum 6 ft. wide pedestrian safety island provided between two driveways more than 25 ft. wide. This pedestrian island must match the same material used for the existing and/or proposed sidewalk. It shall have minimum 3 ft. radii at the curb of the street. This pedestrian island width is located between the curb of the street and the back edge line of the sidewalk. From the back edge line of the sidewalk to the property line it should be designed so that no vehicle can enter this 6 ft. width within the public space area.
- Drive-through driveways must have a minimum 12 ft. driveway width for vehicles to negotiate make curve turns within the driveway in a safe manner.

- Traffic Safety Division Requirements for Circular Driveways (two designs to choose from (A) U-shaped (90-degree angle) and (B) on a 60-degree angle off of the curb of the street
- U-shaped circular driveways minimum standards: (drawing provided)
    - Minimum 8 ft. clearance off of all interior property lines, to the point of where the curb radius for the driveway begins.
    - The minimum 15 ft. outer driveway curb radius at the street for the following family vehicles includes: (sub-compacts, compacts, standard sedans; large cars, pick-up trucks (with no second seat behind driver), family vans 7-seat or less, and small SUV's, seating only five persons). All other vehicles require a larger 20 ft. turning radius. 10 ft. inner radius at curb of street.
    - Driveway width
    - Tangent area needed for a vehicle 60-degree angle circular driveways: (drawing provided)

31.4.4 Curbs and Gutters

Curbs serve any or all of the following purposes: drainage control, pavement edge delineation, ROW reduction, aesthetics, delineation of pedestrian walkways, reduction of maintenance operations, and assistance in orderly roadside development.

All city streets on federal aid system will be constructed with granite curbs and gutters will be replaced with in-kind materials or with brick in special situations or when there is an evidence of bricks in the city blocks. Similarly the local streets (locally funded) outside the Historic Districts will be considered for granite curbs and brick gutters on case-by-case. The asphalt curbs will be constructed for only temporary construction or repairs.

The District's standard curbs are 7 in. high concrete or granite for city streets, 9 in. high granite curbs for bridge structures and 4 in. high mountable curbs for special situations. Each may be designed as a separate unit, or jointly with the pavement, or designed with a 1 ft. wide gutter to form a combination curb and gutter section.

Curbs shall not be constructed on freeways and Interstate highways. Where positive protection is required, such as on long narrow medians or adjacent to bridge substructures, suitable barrier or guiderail should be provided.

The new curb line must meet the existing, in a smooth transition curvature. On remodeling the curb line in a portion of the road, delineate the curb line at the rest of the roadway, by using solid white reflective curb marking. This shall create a neutral area that will channel the traffic and enhance its flow, especially on the intersections. Define the geometry of the skewed portions of curb lines, islands, and medians by providing bearings, dimensions, and curve data.

31.5 Curb Returns

31.5.1 Minimum Required Curb Return Radii

Table 31-A

TYPE OF INTERSECTION	CURB RADIUS (FT)
Curb return radius for street intersection (90 degree angle)	15 ft.
Standard curb return radius for Alleys	10 ft.
Standard curb return radius for driveway	6 ft.

Curb return radius may be increased beyond the above minimum requirements, depending on the geometry of the road and the dimensions of different types of running vehicles. Curb return geometry is required to be enhanced and its radius to be increased to allow easy turns for all running vehicles at certain locations (i.e., trailers, busses, long vehicles, EMS vehicles, etc.).

31.6 Medians

31.6.1 General Requirements

Minimum width of raised medians shall be no less than 4 ft. wide as measured from the inside edge of the travel lane. Medians may be designed for Collector and Local streets if approved by the District Program Manager. The minimum opening in the medians or islands shall be 3 ft.

Medians may be flush, depressed, or raised. Advantages of depressed medians include improved drainage and snow removal. Depressed medians should slope downward on a 6:1 slope to a central valley and adequate median drainage provided.

Medians 5 ft. or less in width should be paved except where the special nature of an area might warrant the higher cost and risk involved in maintaining grass.

Where practical, nose areas shall be paved back to a point where the distance is 5 ft. between curb lines.

31.6.2 Turn Lane and Access

The design of medians shall include the evaluation for needed turn lanes and accesses. For the minimum requirements of turn lanes, refer to the **Intersections** chapter within this manual.

31.6.3 Drainage

Landscaped medians shall be provided with drainage facilities to handle runoff and nuisance flows.

31.6.4 Nose

- Use vehicle-tracking templates to determine the position of the median nose so that vehicles do not track onto the median.
- The minimum radius for nose curbs shall be 2 ft. to flow line.

31.6.5 Paving

All non-landscaped areas of medians on Collector roads shall be paved with stamped concrete, colored concrete, or exposed aggregate concrete in accordance with landscape standards of the District. On Local streets with channelizing islands or medians, the median may be paved with plain concrete as directed. Raised medians shall be constructed of special materials as required in the **Downtown Streetscape Area Standards** or other Historic districts.

31.6.6 Transitions

The ends of medians shall transition into turn lanes with a minimum radius of 100 ft. A change of direction must be accomplished with the use of radii. Angle points shall not be allowed.

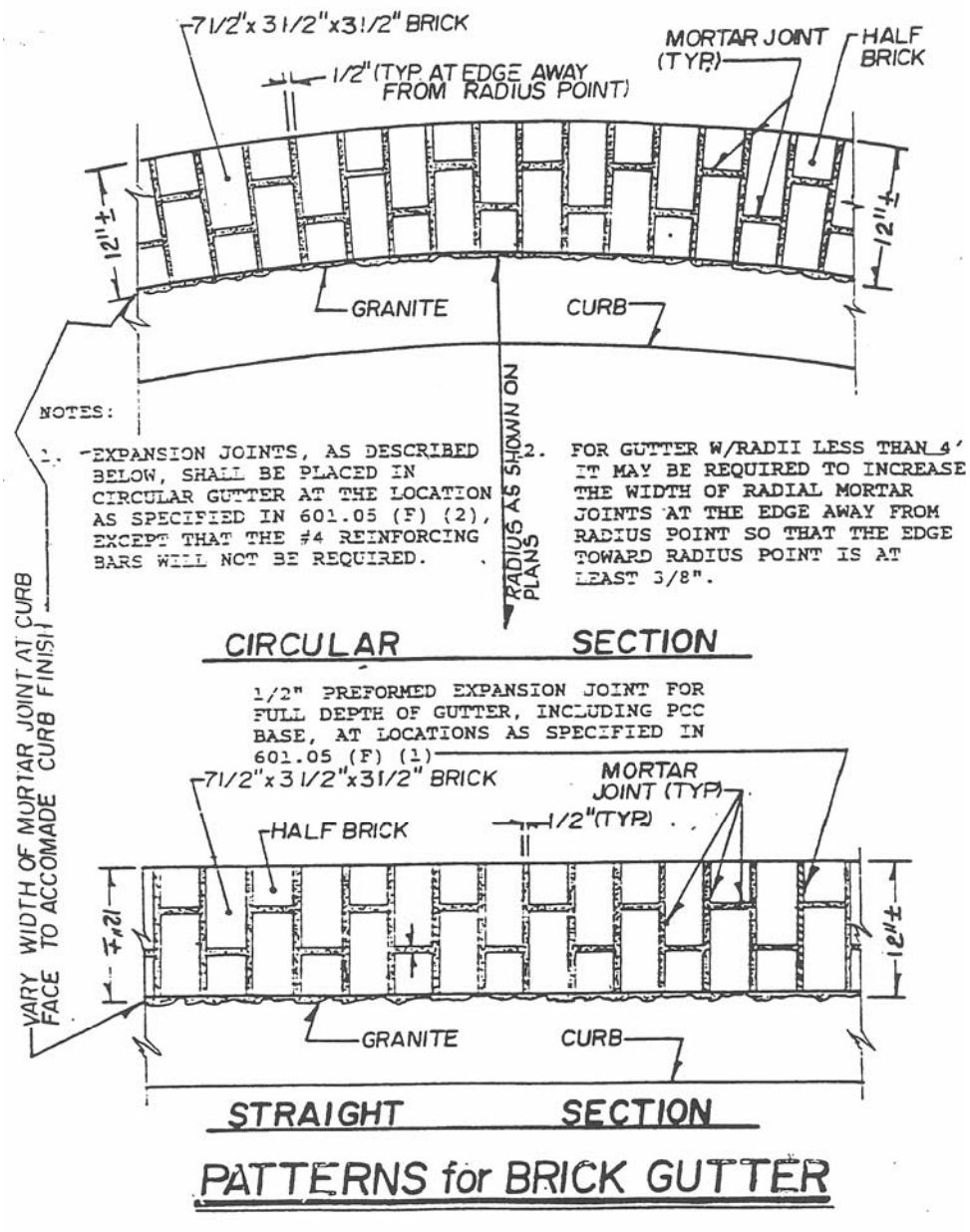
31.6.7 Objects

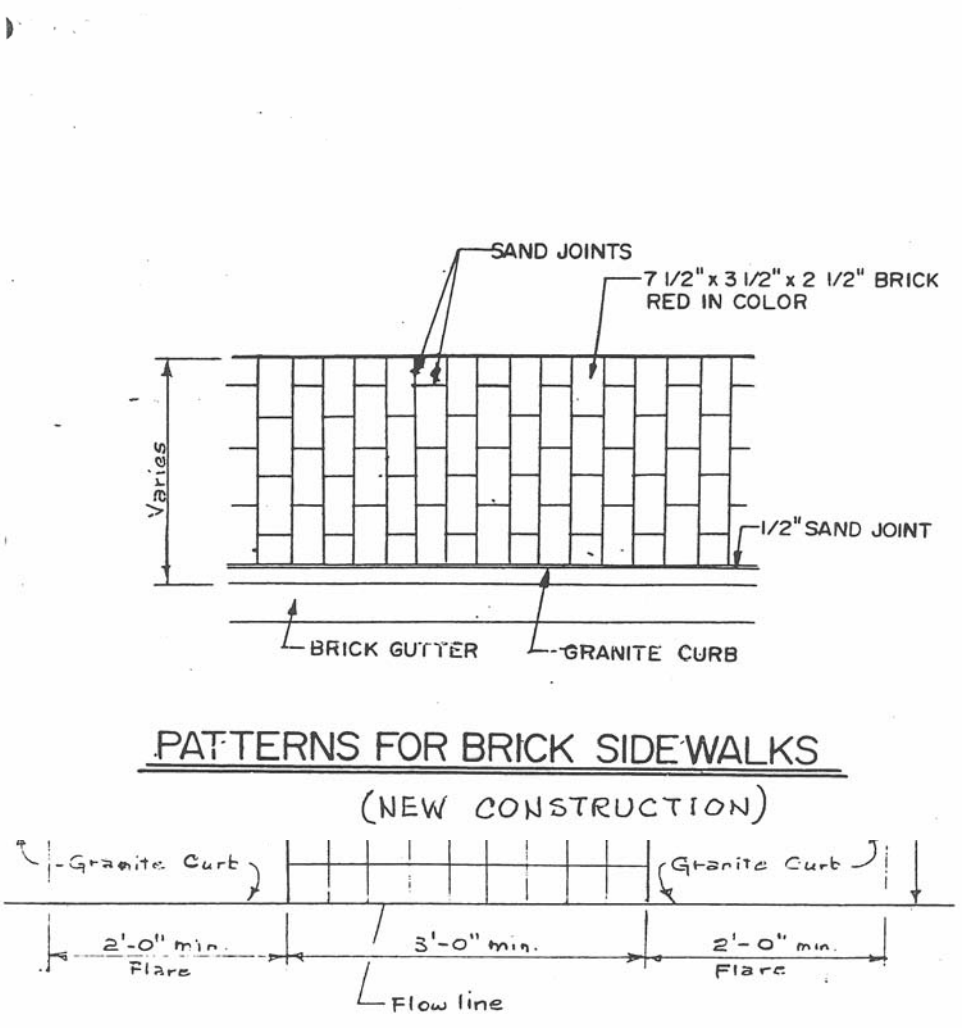
No permanent structures, including light poles, fire hydrants, trees, etc., shall be placed within 5 ft. of the travel lane or in any location that would obstruct sight distance except for structures as approved in these Standards. If a median streetlight is placed within 5 ft. of the travel lane, the light must be a breakaway model.

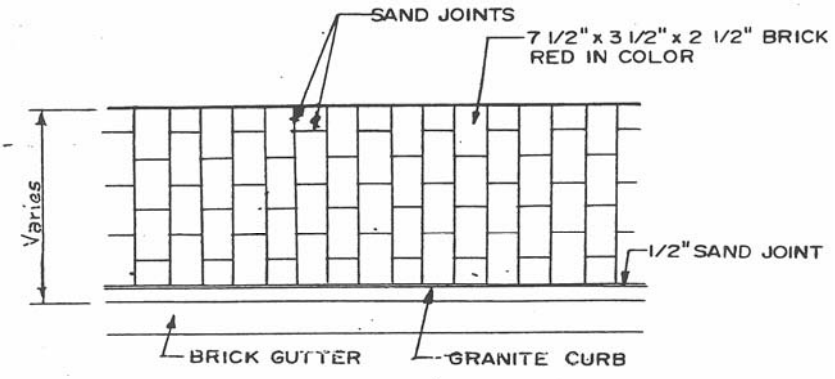
31.7 Fire Department Response Time Factors

Site planning factors that determine response time are street accessibility (curbs, radii, bollards, T-turns, cul-de-sac, street and site slopes, street furniture and architectural obstructions, driveway widths), accessibility for firefighting (fire hydrant and standpipe connection layouts, outdoor lighting, identifying signs), within city. Check with the local codes, fire codes and fire departments.

- Access obstructions: Bollards used for traffic control and fences for security should allow sufficient open road width for access by the fire apparatus. Bollards and security gates can be secured by *standard fire department keyed locks* (check with the local fire department).
- Street furniture and architectural obstructions: Utility poles can obstruct use of aerial ladders for rescue and fire suppression operations. Kiosks, outdoor sculpture, fountains, newspapers boxes, and the like can also seriously impede fire-fighting operations. Wide podium bases can prevent ladder access to the upper stories of buildings. Canopies and other nonstructural building components can also prevent fire apparatus operations close to buildings.
- Outside lighting: Streets that are properly lighted enable fire fighters to locate hydrants quickly and to position apparatus at night. Avoid layouts that place hydrants and standpipe connections in shadows. In some situations, lighting fixtures can be integrated into exterior of buildings. All buildings should have a street address number on or near the main entrance and also, property street numbers provided off of the rear or side alleys.
- Driveway layouts: Long dead ends (greater than 150 ft.) can cause time consuming, hazardous backup maneuvers. Use T-turns, cul-de-sacs, and curved driveway layouts to allow unimpeded access to buildings.
- Minimum street and driveway widths: For full extension of aerial ladders at a safe climbing angle (o), sufficient driveway width (W) is required. Estimate the required width in feet by: $W = (H-6)\ \cot 0 = 4$, where preferred climbing angles are 60 to 80 degrees. Check with local fire department for aerial apparatus operating requirements, including width of aerial device with stabilizing outriggers extended. Minimum street width when parking is allowed is 24 ft. for stabilizing outriggers of a fire truck require a minimum 16 ft. clear lane area.


7 1/2"x 3 1/2"x3 1/2" BRICK
1/2" (TYP AT EDGE AWAY FROM RADIUS POINT)
MORTAR JOINT (TYP)
HALF BRICK
12"±
12"±
GRANITE
CURB
RADIUS AS SHOWN ON PLANS
NOTES:
1. EXPANSION JOINTS, AS DESCRIBED BELOW, SHALL BE PLACED IN CIRCULAR GUTTER AT THE LOCATION AS SPECIFIED IN 601.05 (F) (2), EXCEPT THAT THE #4 REINFORCING BARS WILL NOT BE REQUIRED.
2. FOR GUTTER W/RADII LESS THAN 4' IT MAY BE REQUIRED TO INCREASE THE WIDTH OF RADIAL MORTAR JOINTS AT THE EDGE AWAY FROM RADIUS POINT SO THAT THE EDGE TOWARD RADIUS POINT IS AT LEAST 3/8".
CIRCULAR SECTION
1/2" PREFORMED EXPANSION JOINT FOR FULL DEPTH OF GUTTER, INCLUDING PCC BASE, AT LOCATIONS AS SPECIFIED IN 601.05 (F) (1)
7 1/2"x 3 1/2"x3 1/2" BRICK
MORTAR JOINT (TYP)
HALF BRICK
1/2"(TYP)
VARY WIDTH OF MORTAR JOINT AT CURB FACE TO ACCOMADE CURB FINISH
12"±
GRANITE
CURB
STRAIGHT SECTION
PATTERNS for BRICK GUTTER


SAND JOINTS
7 1/2" x 3 1/2" x 2 1/2" BRICK
RED IN COLOR
Varies
1/2" SAND JOINT
BRICK GUTTER
GRANITE CURB
PATTERNS FOR BRICK SIDEWALKS
(NEW CONSTRUCTION)
Granite Curb
Granite Curb
2'-0" min.
Flare
3'-0" min.
2'-0" min.
Flare
Flow line



PATTERNS FOR BRICK SIDEWALKS
(NEW CONSTRUCTION)